

Action Plan for the

Beatty Area, Nye County, Nevada Renewable Energy Power Park



*Developed through the Federal Brownfields Partnership
Mine-Scarred Lands Initiative*

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Executive Summary

Preliminary analysis by public and private sector energy experts indicates that renewable energy resources are significant in the Beatty area in Nye County, Nevada. This Action Plan for the Beatty Area Renewable Energy Power Park (power park) provides a process related framework that identifies key decision points related to the planning and development of renewable energy facilities on or near the Bullfrog Mining site in Beatty. This framework will allow course-of-action recommendations to be made based on project assessment and stakeholder feedback. The following table outlines the general order of activities and decision points, which are described in greater detail in the remainder of the Action Plan. It is suggested that a feasibility study be conducted by a neutral party and that development should be considered in two phases: Phase I would be based on currently available transmission (50-65 MW) and Phase II would upgrade transmission lines to provide energy from a larger area. The feasibility study tasks for both phases are closely related and can be analyzed concurrently. It is important to note that this Action Plan provides general guidance on the process, but that some of the specific activities and decision points may change as the project proceeds.

Task	Activities	Decision Points for Advisory Committee
1: Develop Organizational Structure	Develop a representative group and a process to coordinate the project, inform and involve the public, and make decisions	<ul style="list-style-type: none">• Develop operating procedures• Decide on entity to conduct the feasibility study
2: Identify Funding Sources	Identify funding for stakeholder engagement and organization activities (\$30-35,000) and the feasibility study (\$150-200,000)	<ul style="list-style-type: none">• Prioritize funding options and decide which to pursue• Determine which member organizations should apply for which funding sources
3: Identify Natural Resources	Map potential properties for a renewable energy facility and preliminarily outline associated ownership and revenue structures	<ul style="list-style-type: none">• Prioritize lands to develop for Phase I and II, without considering specific technology options• Outline expected ownership and revenue structures for associated properties

Task	Activities	Decision Points for Advisory Committee
4-A: Determine Technical Feasibility	<ul style="list-style-type: none"> • Identify applicable renewable energy technologies • Verify transmission availability (Phase I) and research costs to upgrade transmission (Phase II) • Determine maximum capacity and annual energy production for each technology at each property 	<ul style="list-style-type: none"> • After technical analysis, prioritize lands to develop and optimal technologies • Determine whether to continue with Phase II by analyzing associated transmission upgrade costs
4-B: Determine Economic Feasibility	<ul style="list-style-type: none"> • Research potential markets and their estimated ranges for electricity and/or green tag sales • Conduct economic analysis of each technology option's capital costs, financing options, and monetary valuation 	
4-C: Review Associated Regulations and Estimate External Benefits and Impacts	<ul style="list-style-type: none"> • Research energy and land use regulations to ensure there are no compliance issues • Estimate economic benefits and impacts to the region such as jobs created, tax revenue/royalties, and other expected community investments • Estimate environmental benefits and impacts such as reductions in air pollution 	Make final decision on whether to move forward with the project, and determine optimal properties and technologies
5: Project Development	<ul style="list-style-type: none"> • Review key decision points on properties and optimal technologies, ownership, partnering, target markets and structure of the project • Identify processes used to select a developer • Work with developer to secure green power and/or green tag contracts • Construct and operate power park 	<ul style="list-style-type: none"> • Review and finalize critical factors • Identify process and select developer(s)

Overview

This Action Plan describes the steps associated with developing a renewable energy power park on or near the Bullfrog Mine site. At the beginning of the process, it is critical to engage all representative parties and develop a process for making decisions. This can be done efficiently by organizing an Advisory Committee and identifying Subject Area Leads, each with specific roles and responsibilities. After funding is obtained, a technical expert should be hired to ensure that associated technical and economic research is comprehensive. The technical expert will brief the Advisory Committee on research findings throughout the process, and the Advisory Committee will be asked to narrow the project focus by prioritizing properties and technologies.

This Action Plan is based on a two-phased approach. Phase I will include research and development of a production facility using current transmission availability (50-65 MW) and Phase II will include upgrading transmission lines in order to serve a larger market. Although the research for both phases can be conducted concurrently, it is expected that development of Phase II will require a much longer timeframe. The Action Plan includes an overview of activities, key decision points, responsible entities for leading and supporting individual action items, and a timeline.

Task 1: Develop Organizational Structure

The following key steps establish an organizational structure to coordinate the project, inform and involve the public, and make decisions.

Task 1-A: Identify Local Project Champion

Identifying a dedicated local project champion is a critical step toward realizing the development of a power park. It is the local champion who will have ultimate responsibility for building and maintaining project momentum, for coordinating action and communication between and among project partners and stakeholders, and for writing funding proposals to secure needed funds to carry out the project. The local champion should be based in the area where the power park is to be sited, should be well-respected by project partners and stakeholders, and should have the organizational capacity, including staffing and other necessary resources, to fulfill its functions. It is suggested that a full-time position be developed in order to carry out the functions of the local champion. This position will require more support than resources presently available can provide; additional staffing and/or consulting or other support may be necessary.

Until additional funding is secured, the Beatty Economic Development Corporation (BEDC) will serve as the local project champion on a volunteer basis and the Nye County Departments of Natural Resources and Economic Development will provide support with grant writing and other activities. Building on the success of engaging a broad group of project stakeholders (e.g., the Department of Energy (DOE) and Nevada Energy Office), a stakeholder involvement expert could help organize interested parties and assist them in developing operating procedures.

Task 1-B: Assessment of Other Interested Parties

Building on stakeholders already identified, the local champion will serve as a process chairperson/convenor and identify other parties interested in participating in this process and those with issues or concerns that will need to be addressed. Parties that have already been engaged or expressed interest in the project are listed in Appendix I.

The chairperson/convener will also identify the extent to which particular stakeholders want to be involved (e.g., involved in specific decisions or just informed on project status; involvement in specific activities such as proposal writing). The chairperson/convener will determine if there are existing organizational structures through which to evaluate specific questions or issues, or whether new structures need to be created. These activities will help define membership of the project Advisory Committee and identification of Subject Area Leads.

Task 1-C: Establish Advisory Committee

An Advisory Committee will need to be established consisting of parties listed in Appendix I and others identified through stakeholder identification. These stakeholders should have the ability to influence decisions within the organizations they represent. The Advisory Committee's charge will be to identify: barriers and issues, and a framework for addressing them; key short-term (e.g., funding, selecting technical expert) and long-term decisions (e.g., selecting a developer for the project); who should be involved in specific decisions; and a general timeline for making decisions. The Advisory Committee will also develop operational protocols and agreed-upon procedures for decision-making, recognizing that individual land owners have the ultimate authority for decisions concerning their land. Unless the assessment of other interested parties indicates otherwise, consensus methods are suggested, meaning that everyone on the Committee must affirmatively concur with a decision or at least not object to it. If consensus is not appropriate, the Committee may use super-majority (2/3 or 3/4) to represent the decision of the group.

Some important decisions/actions that the Advisory Committee will need to make include:

- Deciding which funding sources to pursue for the feasibility study
- Selecting a technical expert(s) to conduct the feasibility study
- Identifying land parcels to be considered as part of the feasibility study
- Outlining expected ownership and revenue structures
- Working with the technical expert(s) to define the parameters for the technical feasibility study
- Reviewing the results of the technical feasibility study and, in coordination with the technical expert(s), establishing assumptions and likely scenarios to guide the economic feasibility study
- Making a "go or no go" decision on the project after reviewing all components of the feasibility study
- Developing a Request for Proposal (RFP) and reviewing proposals to select a developer

If it is impossible to include key stakeholders on the Advisory Board, the Advisory Board should determine the appropriate time to present project status updates. For example, Nellis representatives should be provided with an overview of the process and then engaged in full discussions once development options (e.g., placement of wind turbines) are identified through the feasibility study.

Task 1-D: Designate Subject Area Leads

Once constituted, the Advisory Committee will identify and task specific Subject Area Leads to move the project forward. These may be organized in various ways (e.g., around specific renewable energy options – solar, wind, geothermal; specific components of the feasibility study; issues and challenges associated with specific parcels of land; increasing transmission capacity). The Advisory Committee should establish clear guidelines concerning the authority of Subject Area Leads and how and when the Subject Area Leads should present or elevate issues to the Advisory Committee. Subject Area Leads may be established to address the following issues.

- Outreach: Establish mechanisms to conduct outreach and involvement activities for affected communities. These might involve using regularly scheduled meetings to keep affected communities informed, developing outreach materials for specific stakeholders, or establishing other appropriate methods for providing information and receiving input. As part of the education and outreach efforts, it would be important to develop an identity for the project that captures its purposes and uniqueness. A first step in developing this identity is determining a marketable and unique name for the project – for example, the Beatty Renewable Energy Enterprise Zone (BREEZ).
- Funding: Identify funding sources for the feasibility study and follow-on activities.
- Reviewing Project Proposals: Develop the RFP and review submissions from interested developers.

It is important to note that membership of the Advisory Committee and Subject Area Leads may change over time as the project becomes more defined and new issues emerge.

Decision Points for Advisory Committee:

- Develop operating procedures.
- Decide on entity to conduct feasibility study.

Task 2: Identify Funding Sources

After the organizational structure is initially developed, the focus needs to be on obtaining funding resources. Applying for funding and performing associated reporting will be a time-intensive activity, therefore, adequate staff time should be provided for the local project champion. Consultant assistance could also be used to assist with these activities or a Funding Group could be established. It is estimated that a feasibility study will cost approximately \$150,000-\$200,000, and \$30,000-35,000 in seed money would be beneficial at the beginning of the process to support stakeholder engagement and organization activities. It is unlikely that one resource will fund the entire process and feasibility study, so it will be necessary to secure a number of funding sources.

Considerations to keep in mind when researching funding:

- State and federal political representatives should continue to be engaged as they may be able to allocate earmarked funds.
- Some partners may be willing to provide support through in-kind services. For example, energy laboratories like the National Renewable Energy Laboratory (NREL) and the Idaho National Laboratory (INL) have shown interest in supporting the project with technical research.
- County governments are generally eligible for most funding sources, but there are some funding opportunities that can only be provided to nonprofit organizations. A process should be set up so that the BEDC or another similar entity can manage the funding.
- Stakeholders may consider developing a Memorandum of Agreement (MOA) among organizations that obtain funding to describe the specific tasks that will be associated with specific funding sources.

Potential funding sources are listed in Appendix II, with more detailed information on those programs that are most suited to this project. These additional sources include: The Energy Foundation, Nevada Energy Earmark Funds, Department of Energy State Energy Programs, the U.S. Department of Agriculture Farm Bill and Rural Business and Opportunity Grants, and Clean Renewable Energy Bonds available through the 2005 Energy Policy Act.

Decision Points for Advisory Committee:

- Prioritize funding options and decide which to pursue.
- Determine which entities should apply for which funding sources.

Task 3: Identify Natural Resources

The community needs to identify potential land and infrastructure resources for the power park and preliminarily outline associated ownership and revenue structures to ensure the feasibility is effective. The following stakeholders may be able to provide land resources for the power park. Their interest should be confirmed at the beginning of the process as land considerations are critical in defining the scope of the feasibility study. To ensure their engagement, the following considerations need to be addressed:

- Beatty Economic Development Corporation (BEDC): BEDC owns 81 acres of former Barrick Gold land that does not include electricity and water infrastructure, but does include former administrative buildings. The community is eager to utilize these properties as it is currently paying taxes on idle land. BEDC and Nye County should explore tax forgiveness options since the renewable energy project is a county priority that has the potential to bring economic and revenue benefits that are greater than the short-term benefits of transferring land to any immediate user.

- Bureau of Land Management (BLM): There are approximately 10,000 acres of BLM property in the surrounding area that could potentially be utilized. Placing wind and solar facilities on public land is allowable but must comply with BLM requirements. A Beatty Master Plan should be developed so that BLM will take into account the community's plans when it develops its Resource Management Plan, which outlines lands for conveyance.
- Barrick Gold: Barrick owns property in the area, although it needs to be clarified how much property they own and where it is located.
- Nye County: There may be non-public lands outside of the Beatty limits that might be suitable for renewable energy production.

The ownership and revenue structure of the project has a direct effect on the financing components of the feasibility study's economic analysis. It is therefore critical that these issues be discussed at the beginning of the process. For example, will BEDC get financing and be the owner of the project, or will it lease the property to a renewable energy developer who will pay land lease fees and taxes or royalties on power production? Infrastructure needs (e.g., water power) may be required depending on the technology option pursued. It is therefore helpful if available infrastructure is outlined at the beginning of the process.

Decision Points for Advisory Committee:

- Prioritize lands to develop for Phase I and Phase II, without considering specific technology options.
- Outline expected ownership and revenue structures for associated properties.

Task 4: Feasibility Study

The development of a comprehensive feasibility study will be a key milestone in the project development process. This study will detail the technical potential of all renewable energy options under consideration, the economics of individual technologies based on various scenarios of market prices for renewable energy and/or "green tags," the viability of power sales based upon available transmission capacity, permitting requirements, and the estimated economic and environmental benefits accruing to the region from the development of the project. A study of this complexity and magnitude is preliminarily estimated to cost \$150,000-\$200,000. While various entities may be involved in development of the feasibility study, due to funding criteria and individual expertise with specific technologies, it is recommended that the study be developed under the guidance of a single project manager to ensure consistency of evaluation methods and allow for an "apples to apples" comparison among potential technology applications. The following list of tasks highlights the specific activities involved with a feasibility study.

Task 4-A: Determine Technical Feasibility:

The goals of the technical feasibility study are to determine the potential scale of the power park (both Phases I and II) based on transmission and land availability, and to focus on specific technology options by researching potential capacity and annual energy output. The associated steps are listed below.

Task 4.A.1: Identify Applicable Renewable Energy Technologies

The first step in the development of the feasibility study will be to identify all applicable renewable energy technologies and applications appropriate to the site. These technologies may include solar, wind, geothermal, and biomass power generation technologies. Specific applications may include concentrating solar power, photovoltaics, wind turbines, geothermal binary power generation, geothermal direct use (thermal energy for greenhouses), and biomass combustion technologies. Parallel research will identify potential operational and/or maintenance issues associated with individual technology options in a desert environment.

Task 4.A.2: Analyze Transmission Capacity

A critical and potentially limiting factor to the size of the overall project is the availability of transmission capacity. There are two types of transmission: firm transmission is always guaranteed to the purchaser, while non-firm transmission capacity is based upon availability and is not guaranteed for long periods of time. Preliminary estimates indicate that approximately 50-65MW of firm capacity is available on Valley Electric Cooperative's adjacent transmission line. Additional investigations should be conducted to verify the availability and costs of firm power transmission, as well as the availability and costs of non-firm transmission. It is recommended that a feasibility study incorporate the concept of a two-phased project. Phase I would be limited to renewable energy development that maximizes the use of available transmission capacity (i.e., ~50-65 MW), while Phase II would examine the development of renewable energy technologies based upon available land and incorporating the costs of upgrading the transmission line to carry additional capacity.

Task 4.A.3: Conduct Site-Specific Energy Modeling

Once the Phase I and Phase II project capacity sizes are determined, then detailed, site specific energy modeling should be conducted to determine maximum capacity (kW) and annual energy production (kWh) for each option based upon the availability of land and transmission capacity. To maximize the accuracy of the technical assessments, it will be critical that the resource data be derived from the most local data sources available. Examples of data collection resources for each technology include:

- Solar: Typical Meteorological Year (TMY) II data is available for local solar insolation levels on an hourly basis.
- Wind: Data may be available from the feasibility study completed for the proposed wind project at the Nevada Test Site – or alternatively, Nye County may be able to obtain a wind anemometer on loan via Valley Electric Cooperative or the Nevada State Office of Energy in an effort to collect more site specific data over a one-year period.
- Geothermal: Depth and temperature of the geothermal resource should be verified to the extent possible from existing data sources (e.g., U.S. Geological Society).
- Biomass: Data will need to be identified and collected to determine the availability, energy content, and quantity of local biomass resources.

Decision Point for Advisory Committee:

- Review the results of the technical feasibility study and, in coordination with the technical expert(s), establish assumptions and likely scenarios to guide the economic feasibility study. This will include an initial prioritization of properties and technologies on which to focus.
- Determine whether to continue with Phase II by analyzing associated transmission upgrade costs.

Task 4-B: Determine Economic Feasibility

Analysis of economic feasibility will help narrow the selection and development of renewable technologies that were identified in the technical feasibility study for both Phases I and II. A variety of factors need to be considered, as described below.

Task 4.B.1: Conduct Market Assessment

Revenues could be made by selling three types of products: green power, “brown or neutral power” and “green tags.” Green power is the renewable energy that utilities buy to add more renewable resources to the grid, thereby decreasing the need for non-renewable resources such as coal. Utilities are, in many cases, required to do so to meet Renewable Portfolio Standards (RPS). Green power can be separated in the economic market into brown or neutral power and green tags. Brown power is electricity stripped of its renewable attributes; and green tags are credits, based on environmental benefits such as emission reductions, that can be sold to utilities or individual customers in place of green power to either meet RPS requirements, voluntary greenhouse gas requirements, or other environmental objectives. No actual electricity is associated with green tags, only the environmental attributes of the renewable power.

Scenarios will be developed that specify a range of energy and/or green tag sales for each market option identified below, thereby illustrating the impacts of various price scenarios on overall project economics. The markets that the Beatty renewable energy project may be able to successfully penetrate include, but may not be limited to:

- Nevada Renewable Portfolio Standard (RPS): The Nevada RPS has a competitive process every two years to identify projects to meet the stated goals of a 20% renewable energy component of its overall energy mix by 2015. Within the Nevada RPS is also a solar set-aside of 5% of the 20% total requirement. The market assessment will look at the historical prices that similar projects have obtained to estimate future prices that would be attributable to the Beatty project for sales of green power and/or green tags into the Nevada RPS.
- California RPS: California is having significant difficulty in meeting its RPS goals, and is looking to projects in neighboring states to supply its renewable energy needs. Similar to the Nevada RPS, historical prices in the California RPS market should be reviewed to determine potential future prices for green power and/or green tags applicable to the Beatty project.
- Voluntary Compliance Market for Green Tags: While green tag prices in the voluntary market are at all-time lows for wind power, a substantial premium exists for solar-based green tags sales. When reviewing green tags sales into either the RPS or voluntary markets, the sale of brown power also needs to be explored to determine potential customers and the sales price of energy into the grid.

- Private Markets for Green Tags and/or Environmental Credits: Another option is to sell brown power into the grid and then sell the green tags or the equivalent pollution credits to Barrick Gold, which has indicated that it may need the credits to meet environmental obligations at other facilities.

Task 4.B.2: Estimate Capital Costs for Each Technology Option

Fully installed capital cost estimates will be developed for each technology option based upon its capacity rating (which will be determined based upon transmission and land availability). These turn-key installed costs would incorporate costs associated with engineering design, generation equipment and system components, construction, commissioning, and interconnection to the grid.

Task 4.B.3: Determine Financing Scenarios

Scenarios that may be utilized to finance the project will be determined, including, but not limited to: floating a government bond, obtaining third party financing, or leaving financing of projects to developers. As financing scenarios are identified, financing periods and interest rates should be documented.

Task 4.B.4: Determine Key Economic Values

The final step in the economic analyses of technology options will be to determine their economic characteristics based upon the market price scenarios for power and/or green tags generated at the site, turn-key capital costs, and all available incentives (e.g., production tax credits, investment tax credits, and accelerated depreciation). Based upon these variables, standard economic analyses will be conducted to determine key economic values, including:

- Return on Investment
- Net Present Value
- Generation Cost
- Benefit-Cost Ratio
- Payback Period
- Annual Finance Payment (if applicable)

Task 4-C: Review Associated Regulations and Determine External Benefits and Impacts

After the technical and economic data is gathered for specific technologies and properties, a final step is to anticipate project benefits to the regional economy and environment, and ensure there will be no compliance issues. This information is often helpful in making the final determination about whether or not to develop the power park. Specific information that may be collected is described below.

Task 4.C.1: Review Regulatory Energy Requirements/Land Use Requirements

Regulations associated with land use and renewable energy requirements will need to be considered to ensure there are no compliance issues. The most important considerations are listed below, and additional information is included in Appendix III.

Land:

- BLM Land Lease: Placing wind and solar facilities on public land is allowable but must comply with BLM leasing requirements.
- FAA Requirements: Aviation regulations need to be considered as renewable energy facilities potentially could affect Department of Defense (DOD) flight patterns associated with Nellis Air Force Base.

Energy:

- BLM Transmission: An approval by BLM will be required for transmission facilities across BLM land.
- State Energy Permitting: The Nevada State Office of Energy should be contacted for information on permitting at the state level.

Task 4.C.2: Estimate Economic Benefits to the Region

This component of the feasibility study would estimate and document economic benefits to the region. These benefits include, but may not be limited to:

- Number of local jobs created during both the construction and operations phases of the project (for both Phase I and II of the project).
- Tax dollars/royalties accruing to city and county governments via any taxes/royalties on power and/or green tag sales, purchased equipment, or any other taxable items.
- Revenues to Nye County associated with land lease payments from project developers and/or owners.
- Economic multiplier effects of new jobs and investment (e.g., new housing construction, sale of goods).

Task 4.C.3: Estimate Environmental Benefits of Project

A final element of the feasibility study is to quantify the estimated environmental benefits of the power park. These benefits include, but may not be limited to:

- Reductions in air emissions (e.g., SO₂, CO₂, NO_x, PM₁₀) resulting from the renewable energy generation offsetting conventional power generation in the state's energy mix. This can be accomplished through taking the potential energy generation amounts from Phase I and II and determining what the equivalent emission levels are for the same quantity of energy generated by the existing mix of resources in the state. The mix of electricity resources for Nevada, and its resulting air emissions are contained in the Environmental Protection Agency's (EPA) E-GRID database – which is available free of charge.
- Impacts on land use from converting a brownfield site to a productive, environmentally benign renewable power production facility.

Decision Points for Advisory Committee:

- Based on the results of the feasibility study, determine if the power park should proceed. Items to consider in determining the “go or no go” decision include: the technical feasibility of the renewable energy applications analyzed; the ability to capture identified market segments (electricity and or green tag sales and/or markets for geothermal aquaculture/greenhouse projects); the associated risk of moving these projects forward; and the aggregated economic benefits accruing to the region.
- If the project concept is determined to be feasible and a decision made to move forward, define the specific properties, technologies to be included in the project, and the preferred mix of solar, wind, and/or geothermal resources to be developed.

Note: Phase I and II scenarios may be discussed separately

Task 5: Project Development

After the decision is made to move forward with the power park, a number of critical decisions discussed during the feasibility study need to be reviewed and finalized. A selection process will be outlined and a developer selected, after which the process of construction and operation will be initiated. The steps associated with the project development stage are listed below.

Task 5.A: Review and Finalize Key Decision Points Impacting Project Development:

A number of key decisions will determine the final structure of the power park, and many of these decisions points will have been made in conjunction with the development of the feasibility study. However, prior to proceeding with project implementation, it will be critical to review those decisions and finalize them. Key decision points to be made at this point in the process include:

- The ownership and revenue structure of the project: Will the land owner(s) (e.g., BEDC, Barrick Gold, Nye County) own the project, or will a third party (e.g., developer(s)) own their own project and pay land lease fees and taxes or royalties on power production? This is perhaps the most critical decision point of the project as the financing options need to be finalized (i.e., third party or floating a bond) and the structure of the revenue streams to the county determined.
- The identity of the partners involved in the project: Which partners want to have a financial stake in the project? Potential partners may include, but may not be limited to, renewable energy developers, electric utilities (Nevada or California), Barrick Gold, third party investors, bondholders, and Las Vegas food companies or casinos (for aquaculture/greenhouse facilities).
- Target markets: The target markets for the output of renewable energy applications slated for development need to be finalized and a plan developed for securing those markets. Potential markets are described in task 4.B.1.
- Additional Decision Points: Additional issues and decision points will likely arise during the course of the project and need to be addressed as appropriate.

Task 5.B: Identify Process for Selecting Project Developers:

Once the project structure has been finalized and is ready to proceed to development, the Advisory Committee should determine how the project developers will be selected. Options include sole sourcing to one developer who will be responsible for the overall project (and possibly working with second tier developers with expertise in wind, solar and/or geothermal projects) or issuing a competitive RFP to identify and select individual developers for each renewable energy technology component. This second option will require development of an RFP document containing:

- Project overview
- Description of the target markets
- Technical specifications and sizes of desired renewable energy technologies (which will be detailed in the feasibility study) and electricity grid interconnection requirements
- Financial characteristics of the project, including potential revenue streams to the developer and the required revenue streams to the county (i.e., land leases and/or royalty payments)
- Selection process for securing developers (i.e., qualifications, financial stability of developer, and cost considerations)

Decision Points for Advisory Committee:

- Review and finalize critical factors.
- Identify process and select developer(s).

Task 5.C: Collaborate with Developers to Secure Electricity and/or Green Tag Contracts:

The final step prior to construction and operation of the power park is to secure contracts for the sale of electricity and/or green tags and/or aquaculture/greenhouse products. This should be done in cooperation with the developers, particularly if they are financing/owning individual projects. Construction and operation will not be able to proceed until contracts are secured, as this provides the trigger for obtaining third party financing. Key attributes of the contracts include:

- Term of contract – 20 years is preferable for electricity/green tags contracts, while 10 years is typically the minimum threshold for financing
- Price of electricity/green tag sales and annual price escalation rates
- Initial delivery date of electricity/green tags to the customer. This date will determine when the project(s) need to be operational

Task 5.D: Construct and Operate Project:

The final step in the development of the power park is to construct and operate the energy facilities. Once developers have been selected, contracts secured, financing obtained, and all permitting requirements met, then the land owner(s) should work with developers to ensure timely construction of the project per the contractual timelines. A project development schedule should be established with key milestones and delivery dates specified. Key milestones include:

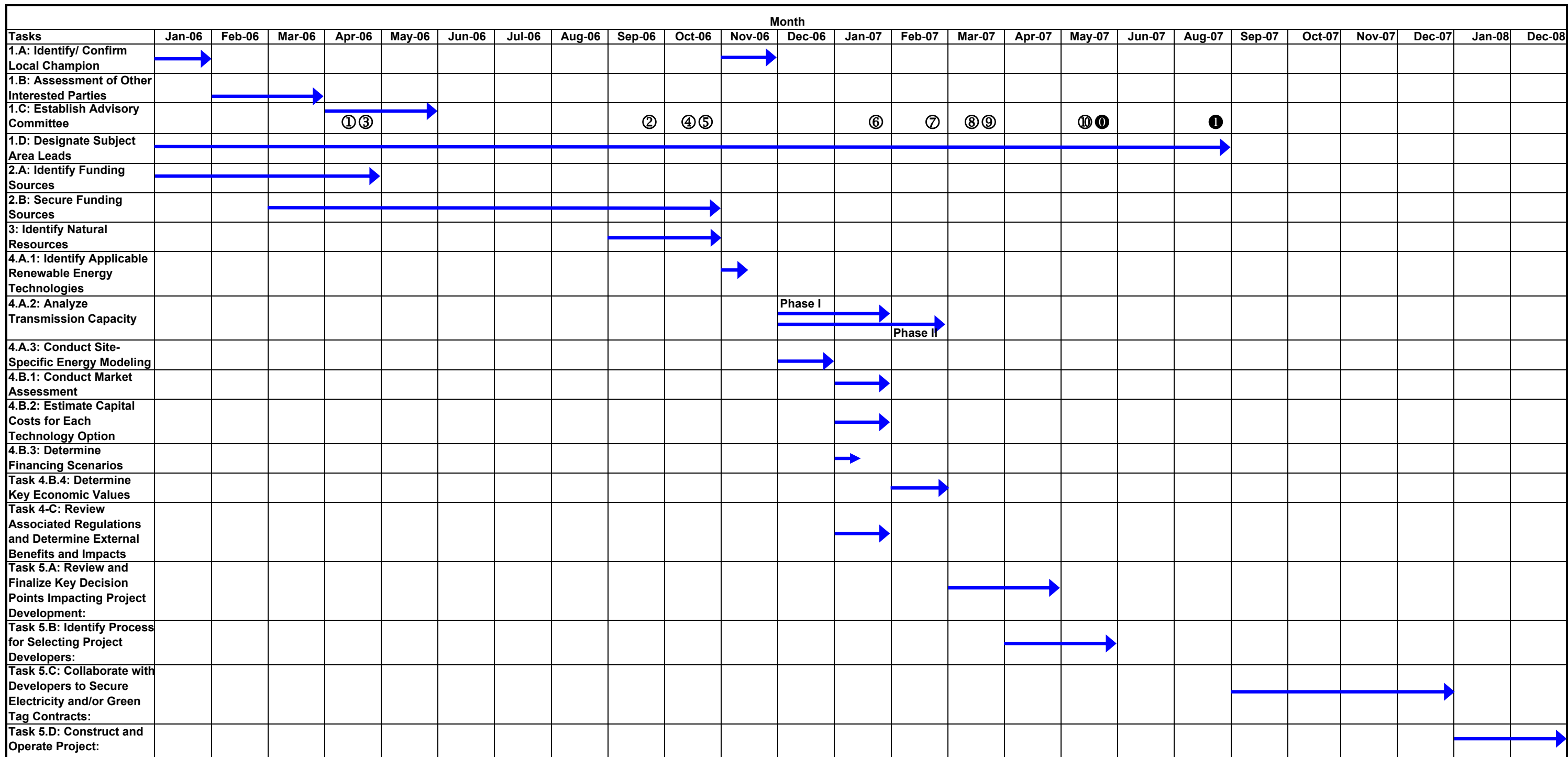
- Filing and gaining approval of all required energy and land use permits
- “Hand-off” Meeting with developers to finalize working relationships and expectations
- Final project design (system design, electrical design)
- Filing of interconnection application and agreement
- Procurement of materials (order and deliver materials)
- Construction
 - Site preparation (grading, system layout, excavation/drilling, setting piers, as appropriate,)
 - Install renewable energy system components
- Electrical installation
 - Trenching for electrical conduit and grounding
 - Electrical equipment pad installation
 - Wiring
 - Electrical equipment installation (inverters/transformers) and connection to renewable energy generation system
 - Communications equipment installation (remote monitoring)
- Project commissioning
 - System acceptance testing
 - Interconnect to grid
- Operations and maintenance
 - Operate system to meet generation requirements and perform necessary maintenance tasks on routine basis

It should be noted that the steps in this project development section are provided as initial guidance for the power park, and as such may be subject to change during the course of the project evaluation stages, as well as when key decisions are made, or as market conditions warrant.

Project Timeline

The attached timeline provides a schedule of activities associated with this Action Plan for a three-year period and includes specific decision points for the Advisory Committee and expected deliverables. This timeline serves as a general framework and may change as the project proceeds. The project construction in this timeline covers Phase I; the timeline for Phase II will likely be more time-consuming.

Beatty Area, Nye County, Nevada -- Renewable Energy Power Park Timeline



**Note This timeline serves only as a general framework.*

Decision Points for the Advisory Board:

- ① Develop Advisory Committee operating procedures
- ② Decide on an entity to conduct the feasibility study
- ③ Prioritize funding sources to pursue and determine which entities will apply for which funding sources
- ④ Prioritize lands to develop for Phase I and II, without considering specific technology options

- ⑤ Outline expected ownership and revenue structures for associate properties

- ⑥ Establish assumptions and likely scenarios to guide the economic feasibility study

- ⑦ Determine whether to continue with Phase II by analyzing associated transmission upgrade costs

- ⑧ Make a "go or no go" decision on whether to move forward with the power park

- ⑨ If it is decided to move forward, define the specific properties and technologies

- ⑩ Review and finalize critical factors

- ⑪ Identify process for selecting developer(s)
- ① Select developer(s)

Expected Deliverables:

Jan 31, 2006- Technical Feasibility Report
Feb 28, 2006- Economic Feasibility Report
Feb 28, 2006- Final Report Documenting Task 4A-C

Appendix I: Project Stakeholders

- Beatty Economic Development Corporation
- Beatty and Amargosa Town Advisory Boards
- Nye County Board of County Commissioners
- Nye County Department of Natural Resources
- Nye County Economic Development Department
- Nevada Energy Office
- Nevada Commission on Economic Development
- Nevada Division of Environmental Protection
- Desert Research Institute
- Idaho National Laboratory
- National Renewable Energy Laboratory
- Sandia National Laboratories
- University of Nevada-Reno
- University of Nevada-Las Vegas
- Valley Electric Association
- Nevada Power/Sierra Pacific Power
- Barrick Gold
- U.S. Bureau of Land Management
- U.S. Department of Defense, Nellis Air Force Base representatives
- U.S. Department of Energy
- U.S. Department of the Interior, Death Valley National Park representatives
- U.S. Environmental Protection Agency

Appendix II: Funding Resources

The following information lists funding resources available and associated guidance and contact information.

Key Funding Sources

The Energy Foundation		
The Energy Foundation supports the pursuance of alternative sources of power through the development of renewable energy policies. <i>The Foundation may be able to provide seed money to help with the startup of the Advisory Committee and researching additional funding opportunities and policies.</i>		
Web site: http://www.ef.org	Contact: (415) 561-6700	Application: Applications are accepted on a continuous basis. Grants are awarded to 501(c)(3) organizations. More information is listed on the Web site.

Nevada Energy Earmark Funds		
The Nevada Energy Earmark Funds are designated through the state legislature each year. <i>Funding could be pursued to help fund the feasibility study.</i>		
Web site: N/A	Contact: Mary Jane Hale NREL (303) 384-7453 maryjane_hale@nrel.gov	Application: There is no formal application. This funding is provided through state government funds.

Department of Energy State Energy Program (SEP)		
The DOE State Energy Program (SEP) provides funding to support the work of Nevada's state energy office to provide direction and set priorities for the state's energy future. <i>Funding could be pursued to help fund the feasibility study.</i>		
Web site: http://www.eere.energy.gov/state_energy_program	Contact: Nevada State Office of Energy (775) 687-9700	Application: Please contact the Nevada State Office of Energy for further information on funding availability.

U.S. Department of Agriculture (USDA) Farm Bill		
The USDA awards competitive grants to purchase renewable energy systems and make energy efficiency improvements for agricultural producers and rural small businesses. The Rural Business Enterprise and Opportunity Grant is a specific funding source that may be appropriate. <i>Funding could be pursued to help fund the feasibility study.</i>		
Web site: http://www.rurdev.usda.gov/rbs/farmbill	Contact: Rural Development Office, Nevada (775) 738-8468	Application: Please contact the Rural Development Office for more information.

2005 Energy Policy Act Clean Renewable Energy Bonds
The 2005 Energy Policy Act includes a program which allows rural electric cooperatives, municipal power authorities, and other governmental units to issue “no-interest” bonds for renewable energy projects. Purchasers of these bonds receive federal tax credits in lieu of interest payments.

Additional Funding Sources

Resource	Overview	Contact Information
Renewable Energy Incentives in Nevada	A variety of state specific resources are listed.	http://energy.state.nv.us/renewable/incentives.htm (775) 687-9700
U.S. Department of Energy	Direct use geothermal applications may be available.	Curtis Framel DOE (206) 553-7841
RNK Capital LLC	RNK Capital LLC aims to invest \$25 million in the U.S. renewable energy and energy efficiency market and is inviting interested parties to submit an Expression of Interest. As an active participant in the markets for emissions trading and renewable energy credits, RNK Capital will consider either buying the credits or allowances generated by the projects or providing debt financing for the projects. The company did not set a specific due date for responses.	http://rfp.rnkcapital.com/
U.S. Economic Development Administration (EDA)	Planning funds to perform Comprehensive Economic Development Strategies (CEDS) for communities are usually awarded (approximately \$50,000). Infrastructure grants are also available.	http://www.eda.gov (206) 220-7660
U.S. Housing and Urban Development (HUD)	The Brownfields Economic Development Initiative (BEDI) and Economic Development Initiative provide grants and loans for property redevelopment.	http://www.hud.gov (415) 489-6524

Resource	Overview	Contact Information
Nevada Rural Development Council	The Nevada Rural Development Council (NRDC) may be able to provide support with organizational and collaborative aspects of the project.	http://www.nevrdc.org (775) 887-2553
Nevada Commission on Economic Development	The Nevada Commission on Economic Development provides matching grant funding that can be used for planning and marketing. The organization also provides information on renewable energy opportunities in Nevada	http://www.expand2nevada.com (702) 486-2700
New Markets Tax Credits	The New Markets Tax Credit (NMTC) Program provides an allocation of tax credits to community development entities (CDEs) which enable them to attract investment from the private-sector and reinvest these amounts in communities.	http://www.cdfifund.gov (202) 622-6355

Appendix III: Regulation Considerations Associated with Renewable Energy and Land Use

Energy Requirements:

- **Federal Energy Regulatory Commission (FERC):** FERC requires public utilities to provide nondiscriminatory, open-access transmission service in order to remedy undue discrimination or preference in accessing transmission systems. This applies to all public utilities that own, control, or operate facilities for transmitting electric energy in interstate commerce.
- **Western Area Power Administration (WAPA):** If the WAPA is either a developer or customer of the power, it may be involved in the approval process.
- **BLM:** Approval by BLM is required for transmission facilities across BLM land.

Land Requirements:

- **National Environmental Policy Act (NEPA):** An Environmental Assessment (EA) or Environmental Impact Statement (EIS) may be required under the NEPA. Specifically, the requirement for an EIS may be triggered by the use of federal funding, the use of federal land for transmission, or the need for federal permits. BLM did conduct a programmatic EIS on wind energy development, which may simplify NEPA requirements. Additional information is provided at: <http://www.epa.gov/compliance/resources/faqs/nepa/>
- **Federal Aviation Administration (FAA):** If the structure (e.g., wind turbine) exceeds 200 feet, an FAA permit may be required. Additional information is provided at: <http://forms.faa.gov/forms/faa7460-1.pdf>
- **National Pollutant Discharge Elimination System (NPDES) permit:** An EPA NPDES permit may be required to ensure that any point sources that may discharge pollutants into waters are regulated. Additional information is provided at: <http://cfpub.epa.gov/npdes/statestats.cfm>

Considerations Related to BLM Lands

- Placing wind and solar facilities on public land is allowable but must comply with BLM requirements.
- Lands targeted for energy development may have additional considerations if they have old mining claims on them.

Considerations Related to Other Lands

- **State Permitting:** The Nevada State Office of Energy should be contacted for information on citing permitting at the state level. See <http://energy.state.nv.us/default.htm>
- **Local Zoning:** The facility is subject to local land use controls, as with any proposed development. If current zoning at the proposed site does not permit power generation, the site may need to be rezoned. If permitted under current zoning, public hearings and approval by the local governing body may be required.
- **Property Institutional Controls:** It will be necessary to ensure that properties Barrick Gold has transferred to BEDC do not have any land use control or engineering restrictions. It is believed that current restrictions are only for the retention pond which will not be transferred or reused.